

Respiratory Diseases Can Steal Poultry Profits

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Respiratory diseases in poultry can be very costly to the poultryman. Such illnesses frequently reduce egg production and may be the cause of high death losses. Symptoms of various kinds of respiratory infections are very similar, yet infection may be due to a number of different disease agents or a combination of them.

Proper treatment and control measures are dependent upon accurate diagnosis and should be arrived at only by people experienced in poultry disease work. The University of Arizona laboratories at Tucson and Mesa are equipped and staffed to help poultry producers with their respiratory disease problems.

3 Clues to Diagnosis

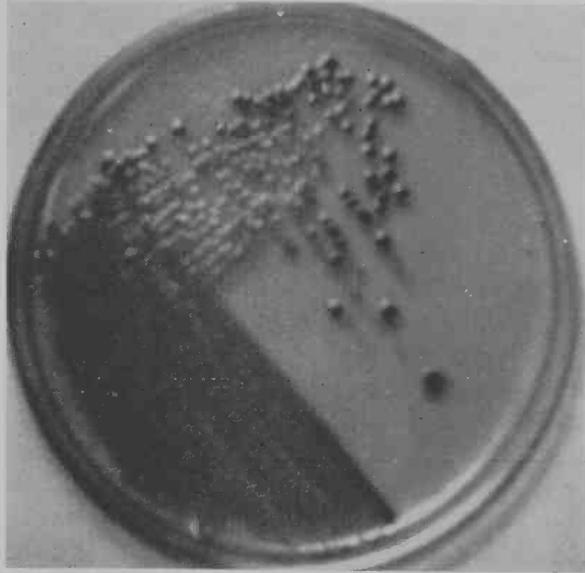
Diagnosis of respiratory as well as other infectious diseases is based upon three basic considerations—the flock history, symptoms of the disease and post-mortem findings. In addition to these findings, laboratory testing may confirm or identify the cause or causes of the disease condition.

Guesswork by inexperienced or untrained persons followed by indiscriminate or inadequate treatment is a poor gamble. Generally it results in a waste of the producer's money and possible harm to the flock.

Requires Laboratory Test

The most common bacterial respiratory diseases encountered in Arizona poultry are coryza or colds and chronic respiratory or air-sac disease. The exact cause of these two diseases can be found only in the laboratory by growing on artificial culture medium the organisms responsible for the condition of the birds.

Frequently, it is necessary to inoculate experimental birds with the organism recovered from the sick birds. This is done



BACTERIAL COLONIES grown on media can develop over night. Each colony results from the multiplication of a single bacterium.

to prove that the suspected "bug" has the ability to produce the disease which has been diagnosed. Coryza or chronic respiratory disease may be further complicated by one or more additional viral or bacterial agents.

Pox, laryngotracheitis, Newcastle disease and infectious bronchitis are the most common virus respiratory diseases occurring in this state. These infectious agents can be isolated by the use of embryonated eggs or tissue culture techniques. There are, however, indirect but simpler, less expensive and quicker methods of diagnosing virus infections in chickens.

HA and HI Tests

Many of the viruses are capable of causing red blood cells to agglutinate or clump. A test based on this principle is called the HA or hemagglutination test. This procedure is useful in determining the presence of a virus. More specifically, the HI or hemagglutination inhibition test is used in the diagnosis of Newcastle disease because it indicates the presence

of antibodies or protective substances in the chickens' blood by inhibiting or preventing the clumping of the red cells. Virus is mixed with the birds' serum and the red blood cells that are added to the mixture indicate the presence or absence of the specific protective substances. Only birds which have the disease or have been exposed to the virus by vaccination or by contact with infected birds will show a positive HI test.

Aspergillosis is probably the only important fungus disease of a respiratory nature that may occur in poultry in this area. It is the result of the invasion of the lungs and air sacs by a fungus. A positive diagnosis can be made by identifying the fungus filaments and spores taken from lesions on post-mortem examination. This organism can also be readily cultured and identified on a special fungus medium.

Avoid Conditions of Stress

Poultrymen should understand that many organisms from the three groups mentioned are always present in their environment. These micro-organisms are ever ready to take advantage of an opportunity to multiply and under conditions of stress they may overwhelm a flock.

Stress, which can be described as any departure from ideal conditions, usually precedes illness in man and animals. It may take the form of exposure to extremes of temperature or humidity, poor nutrition, maturity (laying), excessive expenditure of energy in work or other activity which may bring on fatigue, or any other departure from normal.

The flock owner, even though he may not be trained to diagnose and correct diseases when they occur, can to considerable extent avoid disease outbreaks by avoiding stress. In other words, good management and sanitation, protection from extremes of temperature, properly balanced diet, clean housing and feeding facilities—these will cut down on stress, thus protecting the poultry flock from many of the hazards of infectious disease.

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